

WHAT IS CLAIMED:

1. A process for sterilizing objects on their surfaces, which are dampened by condensing a steam compound of water and hydrogen peroxide, whereby the condensation fluid is subsequently removed from the surfaces by drying, wherein dampening by condensation of the steam compound is carried out without additional transport gas flow, and the drying is carried out by evacuation at a pressure below boiling points of water and hydrogen peroxide.

2. A process according to claim 1, wherein the steam compound is generated in an evaporator, which is at the same time a sterilization chamber, through which the objects to be dampened are guided.

3. A process according to claim 1, wherein the steam compound is generated in an evaporator and subsequently fed into a separate sterilization chamber to dampen the objects, the pressure of the sterilization chamber being lower than the steam pressure of the steam compound.

4. A process according to claim 3, wherein the steam compound flows from the evaporator into the sterilization chamber essentially by means of adiabatic expansion.

5. A process according to claim 3, wherein the steam compound flows from the evaporator into the sterilization chamber due to continuous oversaturation.

6. A process according to claim 1, wherein the dampening by means of condensation as well as the subsequent drying of the condensation fluid is repeated at least once.

7. A process according to claim 2, wherein the dampening by means of condensation as well as the subsequent drying of the condensation fluid is repeated at least once.

8. A process according to claim 3, wherein the dampening by means of condensation as well as the subsequent drying of the condensation fluid is repeated at least once.

9. A process according to claim 4, wherein the dampening by means of condensation as well as the subsequent drying of the condensation fluid is repeated at least once.

10. A process according to claim 5, wherein the dampening by means of condensation as well as the subsequent drying of the condensation fluid is repeated at least once.

11. A process according to claim 1, wherein dampening by means of condensation fluid is repeated at least once, without the phases of drying the condensation fluid in between dampening steps.

12. A process according to claim 2, wherein dampening by means of condensation fluid is repeated at least once, without the phases of drying the condensation fluid in between dampening steps.

13. A process according to claim 3, wherein dampening by means of condensation fluid is repeated at least once, without the phases of drying the condensation fluid in between dampening steps.

14. A process according to claim 4, wherein dampening by means of condensation fluid is repeated at least once, without the phases of drying the condensation fluid in between dampening steps.

15. A process according to claim 5, wherein dampening by means of condensation fluid is repeated at least once, without the phases of drying the condensation fluid in between dampening steps.

16. Apparatus for sterilizing surfaces of objects comprising:

means for generating a steam compound of water and hydrogen peroxide,

a sterilization chamber accommodating objects to be sterilized,

means for dampening surfaces of the objects in the sterilization chamber by condensing the steam compound without additional transport gas flow being applied to the steam compound, and

means for subsequently removing condensation fluid from the surfaces of the objects by drying carried out by evacuation of the sterilization chamber at a pressure below boiling points of water and hydrogen peroxide.

17. Apparatus according to claim 16, wherein the means for generating a steam compound includes an evaporator chamber which also forms the sterilization chamber, and

comprising means for guiding the objects through the combined evaporator and sterilization chamber.

18. Apparatus according to claim 16, wherein the means for generating a steam compound includes an evaporator chamber separate from the sterilization chamber, and

wherein means are provided for maintaining the pressure of the sterilization chamber lower than the pressure in the sterilization chamber.

19. Apparatus according to claim 18, wherein the means for dampening the surfaces include means for inducing flow of the steam compound from the evaporator chamber to the sterilization chamber by adiabatic expansion.

20. Apparatus according to claim 18, wherein the means for dampening the surfaces include means for inducing flow of the steam compound from the evaporator chamber to the sterilization chamber by continuous oversaturation.